

earlier versus later, respectively. No significant deviations were observed using CUSUM methods. We found higher ED-based respiratory-related chief complaints rates during a time of intense forest fire activity near Denver. UC visit rates for asthma were decreased compared to the prior period. Public health information alerts may have played a role in decreasing exposure and avoiding increased HCU.

Milwaukee Biosurveillance Project: Real-Time Syndromic Surveillance Using Secure Regional Internet

Seth Foldy,^{1,2} Paul Biedrzycki,¹ Edward Barthell,^{2,3} Nancy Haney-Healey,⁴ Bevan Baker,¹ Donna Howe,¹ Douglas Gieryn,¹ and the Milwaukee Biosurveillance Workgroup

¹City of Milwaukee Health Department, ²Medical College of Wisconsin, ³Infinity Healthcare, ⁴Waukesha County Public Health

Milwaukee, Wisconsin, was visited by 1.2 million people for events, including the All Star baseball game, in July 2002. Eight emergency departments (EDs), four primary/urgent care practices, and one medical examiner reported, using existing personnel, syndromes associated with bioterrorism agents to the Milwaukee Health Department daily for 4 weeks. Clinicians were to complete a brief symptom checklist during each patient encounter. In practice, some EDs screened only selected patients, and many supplemented clinician reports with log reviews. Daily ED syndrome and total visit volume reports were collected and displayed using the EMSys secure Web site. Patient-identifying information was not sent to the Milwaukee Health Department, but was retained at the ED in case needed. Participating EDs were visited by 26,888 patients, and 314 patients were reported to meet syndrome criteria over the 4 weeks. The rate of syndrome cases to total visits ranged from 0.04% to 2.8% across the various EDs; EDs that relied exclusively on physician checklists had lower syndrome-to-visit rates. Mean ED administrator ratings of implementation and reporting ease ranged from neutral to modestly positive. They negatively rated the ease of clinician involvement. Mean clinician ratings of their experience were neutral to modestly negative. Estimated added patient time in ED averaged less than 4 minutes. Estimated total additional staff time per patient approximated 10 minutes. Primary care practices reported a higher syndrome rate (8.8% of 2,442 visits), which included a camp-associated cluster of streptococcal pharyngitis. A Web-mounted "dashboard" facilitated comparison of syndrome rates and other surveillance trends. The Web site facilitated collection, analysis, and display of surveillance information.

SECTION III: DATA TRANSFER AND TRANSFORMATION

The Frontlines of Medicine Project: a Proposal for the Standardized Communication of Emergency Department Data for Public Health Uses Including Syndromic Surveillance for Biological and Chemical Terrorism

Edward N. Barthell,^{1,2} William H. Cordell,³ John C. Moorhead,⁴ Jonathan Handler,⁵ Craig Feied,⁶ Mark S. Smith,⁶ Dennis G. Cochrane,⁷ Christopher W. Felton,¹ Michael A. Collins,¹ Kim R. Pemble,^{1,8} and Brian F. Keaton⁹

¹Infinity HealthCare, Inc., Wisconsin, ²Medical College of Wisconsin,

³Indiana University School of Medicine, ⁴Oregon Health and Sciences University,

⁵Northwestern University, ⁶Washington Hospital Center, Washington, DC,

⁷Morristown Memorial Hospital, New Jersey, ⁸University of Wisconsin–Milwaukee,

⁹Summa Health System, Akron, Ohio